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CLAIMS

1. A microsensor for detecting corrosive media acting on a metallic material when mounted in situ adjacent a location in the metallic material, the microsensor including a plurality of different corrosion sensors, each said
5 sensor having at least a part formed from a patterned conductive thin film and the different sensors being arranged to be differently influenced by corrosive media in an area in which the unit is mounted, said microsensor providing a separate output derived from each of said sensors respectively.
2. A microsensor unit according to claim 1, wherein the plurality of corrosion
10 sensors comprise a resistivity sensor having a least one thin film track arranged to provide a measurable variation in resistivity in response to prolonged exposure to corrosive media.
3. A microsensor according to claim 2, wherein the plurality of corrosion
15 sensors comprise a plurality of resistivity sensors each having a least one thin film track arranged to provide a measurable variation in resistivity in response to prolonged exposure to corrosion.
4. A microsensor according to claim 3, wherein the resistivity sensors
20 include a first resistivity sensor having said at least one thin film track of a first width and a second resistivity sensor having said at least one thin film track of a second, different width.
5. A microsensor according to claim 4, wherein said second width is a half or less of the first width.
6. A microsensor according to claim 5, wherein said second width is a tenth or less of the first width.
7. A microsensor according to any preceding claim, wherein the plurality of
25 corrosion sensor include a corrosion sensor having at least one thin film track of a first thickness and a second resistivity sensor having at least one thin film track of a second, different thickness.
8. A microsensor according to any preceding claim, wherein the plurality of
30 corrosion sensors include a corrosion sensor having at least one thin film track

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made of a first metallic composition and a different corrosion sensor having at least one thin film track of a second, different metallic composition.

9. A microsensor according to any preceding claim, wherein the plurality of corrosion sensors include a corrosion sensor having at least one thin film track having a first surface type and a different corrosion sensor having at least one thin film track of a second, different surface type.

10. A microsensor according to any preceding claim, wherein the plurality of corrosion sensors include a galvanic sensor having at least one thin film track made of a first metallic material and at least one further thin film track made of a second, different, metallic material, the tracks being arranged to provide a measurable variation in galvanic voltage in response to exposure to an electrolyte.

11. A microsensor according to any preceding claim, wherein the plurality of corrosion sensors include a referenced corrosion sensor including a resistivity sensor and a reference sensor arranged to provide a measurable variation in resistivity in response to changes in temperature, the reference sensor having similar temperature dependence to said resistivity sensor.

12. A microsensor according to any preceding claim, comprising a resistance thermometer sensor, a platinum resistance thermometer for example, arranged for measuring temperatures in an area in which the microsensor is mounted.

13. A microsensor according to any preceding claim, comprising an airflow sensor arranged for measuring levels of airflow in an area in which the microsensor is mounted.

14. A microsensor according to any preceding claim, wherein all of the conductive thin film parts of each of the corrosion sensors are formed on a single substrate having a surface formed from an insulating material.

15. A corrosion sensing system comprising a microsensor according to any preceding claim, wherein said system includes a data processor arranged to receive data derived from each of said separate outputs, to process said detection data and to provide corrosion analysis data based thereon.